

Introduction to Heavy-ion collisions and Quarks and Gluons Plasma – March 2021

Introduction lectures to the physics of heavy-ion collisions and the QGP physics for master 2 and starting PhD students. Lectures will start at 10:00 am and will be 1h30 long.

- **MONDAY : GENERAL INTRODUCTION**
 - The QCD Lagrangian
 - Thermodynamics of relativistic gas
 - Toolkit for experimentalists

- **TUESDAY : MODELING QCD MATTER**
 - The Hagedorn Temperature
 - The MIT bag model
 - Thermodynamics of pion gas and QGP
 - Lattice QCD and the phase diagram of matter

- **WEDNESDAY : TOWARD A STANDARD MODEL OF HIC**
 - Describing a HIC: hydrodynamics
 - The Bjorken scenario
 - Probing the deconfined phase of QCD

- **THURSDAY : HYDRODYNAMICS AND BULK PROPERTIES**
 - Glauber model and centrality
 - Probing the deconfined phase of QCD
 - Small systems

- **FRIDAY : HEAVY-FLAVORS**
 - Introducing the Heavy-flavour
 - Heavy-Flavour in AA collisions
 - Heavy-Flavour in pA collisions